

REMARKS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 22-32 are pending in the present application. Support for claims 22-32 may be found generally throughout the specification and in original claims 1-13. Claims 1-13 have been canceled.

In the outstanding Official Action, claims 1-13 were rejected under 35 USC 112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant believes that the present amendment obviates this rejection.

The outstanding Official Action alleged that claims 1-13 were indefinite for the recitation of letters A-F. While applicant believes that the reference signs (A-F) facilitate a quicker understanding of the claimed invention, in the interest of advancing prosecution, the reference signs are no longer recited in the claims. Thus, applicant believes that this rejection is obviated by the present amendment.

Claims 1, 5, 6, and 9-13 were rejected under 35 USC 102(b) as allegedly being anticipated by NILSSON et al. This rejection is respectfully traversed.

In the claimed invention, a padlock probe is anchored to a solid phase. A detectable marker is linked to the padlock probe, which allows for a detectable moiety to remain bound to the probe (see present specification page 2, line 26). The padlock also contains a cleavable segment.

A nucleic acid-containing sample may be added to the anchored probe and a segment, the target sequence, of the nucleic acid sequence may be hybridized to the complementary N-segments of the padlock probe. In doing so, the padlock probe becomes circulized through ligation of the ends. The padlock probes that do not hybridize to a nucleic acid sequence are then cleaved, in a way so that the detectable marker from unbound probes is removed with the cleavable dissociable segment. As set forth in the claimed invention, the unbound cleavable or dissociable segments are then removed by washing.

Padlock probes which have interacted with the nucleic acid sequence from the sample, can be detected through analysis of the detectable marker. Since the nucleic acid of interest is bound to the solid phase via the probe, applicant believes that the washing step is more easily performed and provides reduction of "noise" when analyzing the bound sample.

This stands in contrast to NILSSON et al. NILSSON et al. disclose probes which are used for localization detection of a specific segment of a single stranded DNA. NILSSON et al. disclose that the probe is an oligonucleotide probe for localized

detection of specific nucleic acids composed of two target complementary end segments connected by a linker.

Contrary to the assertions of the Official Action, the probe disclosed by NILSSON et al. does not contain any cleavable function or dissociable detectable functions. Moreover, the probes do not contain a solid phase anchor.

As to Figure 4 of NILSSON et al., non-ligated probes are not removed by cleaving the probes because they do not contain a cleavable function. Rather, the probes are removed because they are not linked to the anchored target sequence.

Thus, as the disclosed probes of NILSSON et al. do not contain a cleavable function or dissociable detectable function and are not anchored to a solid phase, applicant believes that NILSSON et al. fails to disclose or suggest the claimed invention. Indeed, while the Official Action generically cites to Figure 4 as teaching these recitations, the Official Action fails to explain how or where they are disclosed by NILSSON et al.

As a result, applicant believes that NILSSON et al. fails to anticipate or render obvious the claimed invention.

Claims 2-4 were rejected under 35 USC 103(a) as allegedly being unpatentable over NILSSON et al. and further in view of URDEA et al. This rejection is respectfully traversed.

Applicant believes that URDEA et al. fails to remedy the deficiencies of NILSSON et al. URDEA et al. do not teach a

probe that contains a cleavable function or dissociable detectable function. Moreover, URDEA et al. do not disclose probes that comprise a solid phase anchor as set forth in the claimed invention. Thus, applicant believes that the proposed combination fails to render obvious claims 2-4.

Claims 7-8 were rejected under 35 USC 103(a) as allegedly being unpatentable over NILSSON et al. and further in view of BIRKENMEYER et al. This rejection is respectfully traversed.

BIRKENMEYER et al. disclose a gap filling Ligase Chain Reaction, wherein the object is to decrease the occurrence of target independent ligation (see column 2, lines 30-31). This stands in contrast to the claimed invention, wherein the probes are optimally designed to hybridize to a target molecule to leave a small gap between adjacent probe ends (see present specification, page 4, lines 29-31). As a result, applicant believes that BIRKENMEYER et al. teach away from the claimed invention. Thus, applicant believes that the proposed combination fails to render obvious the claimed invention.

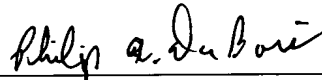
In view of the present amendment and foregoing Remarks, therefore, applicant believes that the present application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on this basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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